

Amendments to the Drawings:

The attached sheet of drawings includes a change to Figure 1; the designation "Prior Art" has been added as suggested by the Examiner.

Attachment: Submittal of Drawing Replacement Sheet

REMARKS/ARGUMENTS

1.) Claim Amendments

Claims 16, 18-23, 26 and 28-29 have been amended and claims 17 and 27 have been cancelled. Accordingly, claims 16, 18-26 and 28-29 remain pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Information Disclosure Statement

The Examiner objected to the Information Disclosure Statement filed on May 26, 2005. The Applicant submits herewith legible copies of each cited reference.

3.) Examiner Objections – Drawings

The Examiner objected to the drawings, stating that Figures 1 and 3 should be designated as prior art legend. Figure 3 is not prior art, but illustrates a general structure according to the principles of the invention. A correction to Figure 1 to include a prior art legend is provided herewith on the enclosed replacement sheet. The Examiner's approval of the drawing change is respectfully requested.

4.) Claim Rejections – 35 U.S.C. § 112

The Examiner rejected claims 17-23 and 27-29 as failing to particularly point out and distinctly claim the subject matter the Applicants regard as the invention. The Applicants have amended those claims to correct the lack of antecedent bases noted by the Examiner in claims 17-19 and 27 and to clarify that the "sections" recited in claims 17, 21-23 and 28-29 are a part of the "cross-sectional portions" recited in the claims from which they depend. It should be noted that claim 16 has been amended to include the limitations of claim 17 and claim 26 has been amended to include the limitations of claim 27, including the corrections made in response to the Examiner's rejection under §112. Thus, whereas the Examiner did not make any further rejections to claim 27, claim 26 is now allowable. Furthermore, whereas claims 28-29 are dependent from claim 26, and include the limitations thereof, those claims are also now allowable.

5.) Claim Rejections – 35 U.S.C. § 102(b)

The Examiner rejected claims 16, 18, 24 and 25 as being anticipated by Sarkka (US 5,712,606); claims 16, 17, 18, 24 and 25 as being anticipated by Ishikawa, *et al.* (US 5,049,842); claims 16 and 19 as being anticipated by Terashima, *et al.* (US 6,778,042); and claim 26 as being anticipated by Shu, *et al.* (US 6,262,639). The Applicants traverse the rejections.

First, claim 16 has been amended to include the limitations of claim 17. Accordingly, whereas claim 17 was only rejected as being anticipated by Ishikawa, the anticipation of claim 16 will be addressed only in view of that reference; *i.e.*, the Examiner's rejection of claim 16 as being anticipated by Sarkka or by Terashima is now moot. Second, claim 26 has been amended to include the limitations of claim 27, which was also amended to overcome the Examiner's rejections under §112. Accordingly, as noted *supra*, claim 26 is allowable and the Examiner's rejection of that claim as being anticipated by Shu is now moot.

Claim 16, as amended to include the limitations of claim 17, recites:

16. A tuner adapted to equalize non-linear frequency changes within a desired frequency range in response to tuner displacements relative to a resonator body, said tuner comprising:

a tuner element having a non-uniform distribution of the effective dielectric permittivity along an axis of tuner displacement, said non-uniform distribution of the effective dielectric permittivity is realised by subdividing the tuner element into a number of cross-sectional portions, each of which is distinguishable by their geometrical shape or size in the dimension perpendicular to said axis of tuner displacement or by a value or distribution of the dielectric coefficient ϵ_r along said axis. (emphasis added).

According to Applicants' invention, the tuner element has a non-uniform distribution of an effective dielectric permittivity along an axis of tuner displacement, wherein the non-uniform distribution of the effective dielectric permittivity is realised by subdividing the tuner element into a number of cross-sectional portions, each of which is distinguishable by:

1.) their geometrical shape or size in the dimension perpendicular to the axis of tuner displacement; or,

2.) by a value or distribution of the dielectric coefficient ϵ_r along the axis of tuner displacement.

In contrast, Ishikawa discloses a dielectric resonator in which a tuning unit 18 has a consistent geometrical profile along its axis of tuner displacement. It is noted that Figures 1A, 2, 3 and 4 of Ishikawa illustrate tuning elements having various cross-sectional profiles, but no illustration therein teaches a tuning unit having "a number of cross-sectional portions, each of which is distinguishable by their geometrical shape or size in the dimension perpendicular to [the] axis of tuner displacement." Furthermore, there is no teaching in Ishikawa of a tuning unit having "a number of cross-sectional portions, each of which is distinguishable by . . . a value or distribution of the dielectric coefficient ϵ_r along [the axis of tuner displacement]." Therefore, Ishikawa fails to anticipate claim 16. Whereas claims 18-25 are dependent from claim 16, and include the limitations thereof, those claims are also not anticipated by Ishikawa.

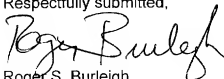
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CONCLUSION

In view of the foregoing amendments and remarks, the Applicants believe all of the claims currently pending in the Application to be in a condition for allowance. The Applicants, therefore, respectfully request that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 16, 18-26 and 28-29.

The Applicants request a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Roger Burleigh", written over the typed name.

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Date: February 7, 2007

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